Table 3-3
Special-Status Wildlife with Potential to Occur on or Adjacent to the Project Site

Species	Status [1]		Habitat	Potential for Occurrence
	USFWS	DFG		
American badger *Taxidea taxus*	--	SSC	Inhabits grassland, shrub, and woodland habitats with friable soils.	Could occur year-round; recorded within 5 miles of the project site. Suitable habitat exists adjacent to the project site; although no badger burrows were observed during reconnaissance surveys.
Birds				
Swainson's hawk *Buteo swainsoni*	--	T	Nests in riparian woodlands and isolated trees; forages in grasslands, shrublands, and agricultural fields.	Known to occur in the project vicinity in late spring and summer. Suitable nesting and foraging habitat is present adjacent to the project site.
White-tailed kite *Elanus leucurus*	--	FP	Nests in woodlands and isolated trees; forages in grasslands, shrublands, and agricultural fields.	Could occur year-round; suitable nesting and foraging habitat is present adjacent to the project site.
Burrowing owl *Athene cunicularia*	--	SSC	Nests and forages in grasslands, shrublands, deserts, and agricultural fields, especially where ground squirrel burrows are present.	Could occur year-round; suitable nesting and foraging habitat is present both on and adjacent to the project site.
Northern harrier *Circus cyanus*	--	SSC	Nests and forages in a variety of open habitats including marshes, grasslands, shrublands, and agricultural fields.	Could occur year-round; suitable nesting and foraging habitat is present adjacent to the project site.
Tricolored blackbird *Agelaius tricolor*	--	SSC	Nests colonially in cattails, tules, willows, blackberries, nettles, mustards, thistles, and other dense vegetation; Forages in grasslands and agricultural fields.	Could occur year-round; recorded within 5 miles of the project site. Low-quality nesting habitat is present adjacent to the project site; low-quality foraging habitat is present both on and adjacent to the project site.
Mountain plover *Charadrius montanus*	--	SSC	Forages in short grasslands, plowed agricultural fields, and occasionally low, open sagebrush-steppe, usually where trees are absent.	Could occur in winter; recorded within 5 miles of the project site. Low-quality foraging habitat is present adjacent to the project site.
Western snowy plover *Charadrius alexandrinus nivosus*	T	SSC	Nests and forages on sandy and gravelly beaches along the coast and the shores of inland alkali lakes.	Not expected to occur; recorded within 5 miles of the project site, but suitable habitat is not present on or adjacent to the project site.

[1] **Legal Status Definitions:**

U.S. Fish and Wildlife Service (USFWS)

E Endangered (legally protected)

T Threatened (legally protected)

California Department of Fish and Game (DFG)

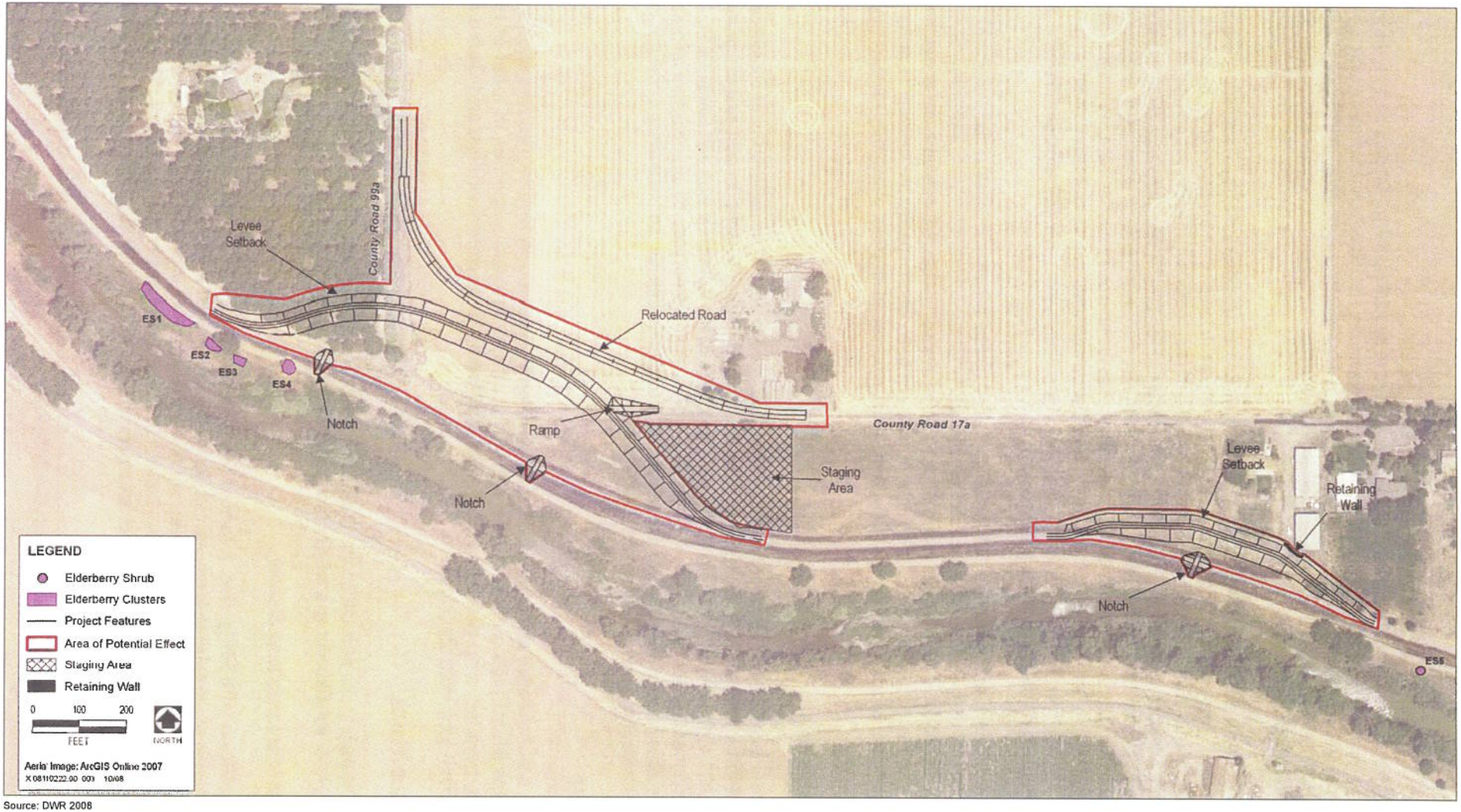
E Endangered (legally protected)

T Threatened (legally protected)

FP Fully Protected (legally protected, no take allowed)

SSC Species of Special Concern (no formal protection)

Source: EDAW 2008, CNDDB 2008a, USFWS 2008



Source: DWR 2008

Project Design and Biological Resources

Exhibit 3-4

Northern Harrier. The northern harrier is a California species of special concern. Harriers nest on the ground and forage in a variety of open habitats including marshes, grasslands, shrublands, ruderal areas, and agricultural fields. Harriers nest most often in open areas where large trees are absent or uncommon. Although no harriers were documented in the CNDDB search within 5 miles of the project site, harriers may us agricultural fields on the site for nesting and foraging.

Tricolored Blackbird. Tricolored blackbird is a California species of special concern. They nest in dense colonies that range from less than 25 individuals to more than 80,000 and often change colony locations from year to year. Tricolored blackbirds may nest in a variety of habitats, including riparian vegetation. A tricolored blackbird colony has been recorded by CNDDB within 5 miles of the project site, in a large stand of cattails along another section of Cache Creek. Tricolored blackbirds could also nest in the willow-dominated sections of Cache Creek adjacent to the project site. However, these areas provide lower-quality nesting habitat for this species, as they nest less frequently in willow-dominated vegetation than in emergent marsh vegetation or thickets of thorned plants such as blackberries. Tricolored blackbirds forage in grasslands, pastures, and agricultural fields, and could forage in the fields in and adjacent to the project site.

Mountain Plover. Mountain plover is a California species of special concern. It inhabits flat plains with short vegetation (often less than 4 inches high) or bare ground, and is found in both grasslands and fallow agricultural habitats. Mountain plover is only present in the Central Valley during winter. When fallow, the agricultural fields on the project site may provide foraging habitat for mountain plover. These species are unlikely to make extensive use of the project site, however, as they typically avoid areas near abundant trees, which may support their avian predators.

Sensitive Habitats

Sensitive habitats include those identified as sensitive natural communities "rare and worthy of consideration" in the List of California Terrestrial Natural Communities Recognized by the CNDDB, as well as those protected under Section 404 of the Clean Water Act (CWA), Section 1602 of the California Fish and Game Code, and the State's Porter-Cologne Water Quality Control Act. The project site does not include any sensitive habitats. However, the patches of Great Valley oak riparian forest immediately outside the boundaries of the project site, as well as Cache Creek itself, are considered sensitive habitats.

DISCUSSION

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?

Special-Status Plants

No Impact. The project site does not support suitable habitat for special-status plants. Therefore, no impact to special-status plants would occur as a result of implementation of the proposed project.

Valley Elderberry Longhorn Beetle

Less than Significant with Mitigation. A total of five elderberry shrubs (or clusters of shrubs) were documented along the water side of the existing levee. All but one of the shrubs were at the northwest end of the site near ML 3.9L. Approximately 2 percent of the stems surveyed had exit holes, which indicate that the shrub could be occupied by valley elderberry longhorn beetle. Potential damage and mortality to these shrubs from construction activities associated with the proposed project is considered to be a potentially significant impact on valley elderberry longhorn beetle.

According to the USFWS guidelines, USFWS Conservation Guidelines for Valley Elderberry Longhorn Beetle (USFWS 1999), a 100-foot buffer around elderberry shrubs should be established by the project applicant wherever feasible to completely avoid potential impacts to valley elderberry longhorn beetle. Where a 100-foot buffer is not feasible, a minimum buffer of 20 feet from the dripline shall be maintained around each elderberry shrub. Appropriate buffer widths for the proposed project were discussed on December 6, 2005, during informal consultation between DWR and Jennifer Hobbs of USFWS regarding the Cache Creek North Levee Setback – Critical Erosion Sites 1, 2, and 3 (EDAW 2006a and 2006b). A subsequent informal consultation between DWR and USFWS was held at the Cache Creek Critical Erosion sites LM 3.9L and LM 4.2L on March 22, 2007. At this meeting, USFWS concurred that implementation of the levee setback project would not adversely affect valley elderberry longhorn beetle (Hobbs, pers. comm., 2007). At these meetings, Ms. Hobbs stated that a formal Biological Opinion or ESA Section 7 permit would not be required for the proposed project provided that all elderberry shrubs at the levee setback sites were protected by buffers of at least 20 feet from the dripline. Implementation of Mitigation Measure Bio-1 would reduce the potentially significant impact to valley elderberry longhorn beetle to a less-than-significant level.

Mitigation Measure Bio-1: Maintain a 20-Foot Buffer Around Elderberry Shrubs.

The following measures would reduce potentially significant adverse impacts to valley elderberry longhorn beetle to a less-than-significant level:

- If possible, DWR shall establish and maintain a minimum buffer of 20 feet around each elderberry shrub through the duration of project construction.
- Buffer areas shall be clearly marked in the field with brightly colored, temporary construction fencing and flagging. No project activity shall occur within the buffer areas.
- Following USFWS guidelines (USFWS 1999), construction crews shall be informed about the status of the beetle and the need to protect its elderberry host plant. If requested by USFWS, a qualified biologist shall monitor construction activities to ensure that the buffers remain protected throughout the construction period.
- If the establishment of a 20-foot buffer is not feasible, then USFWS shall be consulted. It is anticipated that shrubs that cannot be adequately protected will need to be transplanted to a protected onsite area before construction begins, in accordance with USFWS guidelines (USFWS 1999).

Special-Status Fish

Less-than-Significant Impact. Substantial adverse impacts to special-status fish are not expected to result from the construction, operation, or maintenance of the setback levees because the area of potential effect is restricted to the landside of the existing levee. Potential for fish stranding during high flows would be minimized by notching the existing levee to prevent ponding (i.e., grading the area to drain into the creek channel). In addition, beneficial effects could result from fish being contained within the new setback area during a flood. Under the current situation, fish would be subject to higher mortality during a levee break that occurs at a lesser magnitude flood because many fish would be expected to be transported into and stranded in nearby agricultural fields. This potential impact is considered to be less than significant.

Nesting Raptors and Special-Status Birds

Less-than-Significant Impact with Mitigation. Special-status birds that could nest within or adjacent to the setback levee site include Swainson's hawk, white-tailed kite, northern harrier, tricolored blackbird, and burrowing owl. In addition to these special-status species, a number of common raptors species could nest in the project vicinity. The nests of all raptor species are protected under Section 3503.5 of the California Fish and Game Code. Nest disturbance resulting from project construction has the potential to cause nest abandonment or

the loss of eggs or chicks due to reduced parental care. The project does not propose to remove any known or potential nesting trees for special-status birds or common raptors. Loss of an active special-status bird nest or raptor nest caused by disturbance during project construction would be a significant project impact. This impact is considered to be potentially significant.

Mitigation Measure Bio-2: Conduct Pre-Construction Surveys for Special-status Birds and Nesting Raptors.

The following measures would reduce potentially significant adverse impacts to Swainson's hawk and common raptors to a less-than-significant level:

- If project activity is scheduled to occur during the raptor nesting season (March 1 – September 15), a focused survey for raptors shall be conducted by a qualified biologist before commencement of activities to identify active nests on and in the vicinity of the project site. Surveys for Swainson's hawk nests shall include all areas of suitable nesting habitat within 0.25 mile of the project site. Surveys for other raptors shall include suitable nesting habitat within 500 feet of the areas where construction would occur. If no active nests are found, no further mitigation shall be required.

- If active nests are found during the surveys, appropriate buffers shall be established to minimize impacts. No project activity shall commence within the buffer area until a qualified biologist confirms that the nest is no longer active. The size of the buffers may be adjusted, depending on the project activity and stage of the nest, if a qualified biologist determines that activity within a reduced buffer would not be likely to adversely affect the adults or their young.

The following measures would reduce potentially significant adverse impacts to tricolored blackbird to a less-than-significant level:

- If project activity is scheduled to occur during the breeding season for tricolored blackbirds (March 1 – September 15), a preconstruction survey shall be conducted by a qualified biologist in any areas of potentially suitable nesting habitat located within a 0.25 mile of the project site. If no nesting tricolored blackbirds are observed during the preconstruction surveys, then no further mitigation is required.

- If tricolored blackbirds are observed nesting on the project site, project-related construction impacts shall be avoided and minimized by establishment of a 0.25-mile buffer around the colony during the nesting period (March 1 – September 15) for all project-related construction activities. The size of the buffers may be adjusted if a qualified biologist determines that project activity within a reduced buffer would not be likely to adversely affect the adults or their young.

The following measures would reduce potentially significant adverse impacts to burrowing owls to a less-than-significant level:

- Prior to any ground-disturbing project-related construction activity, a focused survey for burrowing owls shall be conducted by a qualified biologist in accordance with DFG protocol (DFG 1995) to identify active burrows on and within 250 feet of each project site. The surveys shall be conducted no more than 30 days prior to the beginning of construction.

- If no occupied burrows are found in the survey area, the biologist shall document survey methods and findings in a letter report to DFG, and no further mitigation is required.

- If an occupied burrow is found, a buffer shall be established – 165 feet during the nonbreeding season (September 1 through January 31) or 250 feet during the breeding season (February 1 through August 31) – for all project-related construction activities. The size of the buffer area may be adjusted if a qualified biologist and DFG determine project-related construction activities would not be likely to have adverse

effects. No project-related construction activity shall commence within the buffer area until a qualified biologist confirms that the burrow is no longer occupied, or consultations with DFG specifically allow certain construction activities to continue.

- If avoidance of occupied burrows is infeasible for project-related construction activities, on-site passive relocation techniques approved by DFG shall be used to encourage owls to move to alternative burrows outside of the project site. However, no occupied burrows shall be disturbed by project-related construction activities during the nesting season unless a qualified biologist verifies through noninvasive methods that the burrow is no longer occupied.

Habitat for Special-Status Birds

Less-than-Significant Impact. The construction staging area would be located on 1.2 acres of agricultural and ruderal land, which would result in the temporary loss of approximately 1.2 acres of potential foraging habitat for Swainson's hawk, white-tailed kite, burrowing owl, northern harrier, tricolored blackbird, and mountain plover, as well as potential nesting habitat for burrowing owl. The levee setback area would eventually be restored after construction with native grassland which would improve habitat for the species listed above. Given that a small area of habitat may be converted from agricultural to grassland, that all three habitat types support special-status species, and that agricultural habitat is much more common than grassland in Yolo County, impacts would be less than significant. Permanent habitat conversion along the levee footprint would also be less than significant, because the species associated with the agricultural habitat that would be lost are also associated with the grassland and ruderal habitats that would characterize the new levee.

American Badger

Less-than-Significant Impact. American badger has been documented within 5 miles of the project site and suitable foraging habitat exists in the adjacent riparian woodland. Although badgers could forage in this adjacent woodland, they are unlikely to den adjacent to the project site because of the narrow width of the riparian habitat. Badgers are typically an area-dependent species with home ranges between 300-1,500 acres. No evidence of badger activity was observed during the reconnaissance survey. Construction and operation of the setback levee are not expected to adversely affect American badger; therefore, this impact would be less than significant.

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or the U.S. Fish and Wildlife Service?

Less than Significant with Mitigation. The project site does not include any riparian habitat or other sensitive natural communities. However, Cache Creek and the Great Valley oak riparian forest patches along its banks are located immediately adjacent to the project site. Both the creek and the forest are considered sensitive habitat by DFG. Patches of Great Valley oak riparian forest are present within 25 feet of construction activities, and the bank of Cache Creek is located within 100 feet of construction activities. All diversions, obstructions, or changes in the natural flow or bed, channel, or bank of any river, stream, or lake in California that supports wildlife resources are subject to regulation by DFG under Section 1602 of the California Fish and Game Code. Considering the proximity of proposed project construction activities to Cache Creek, there is the potential for construction-related impacts to the creek bank. These impacts would be considered potentially significant. Implementation of Mitigation Measure Bio-3 would reduce this impact to a less-than-significant level.

Mitigation Measure Bio-3: Erect Brightly Colored Fencing Around Sensitive Riparian Habitat.

The following measure would reduce potentially significant adverse impacts to sensitive natural communities to a less-than-significant level:

- DWR shall install brightly colored protective fencing along the outer edge of the riparian forest vegetation to protect the patches of Great Valley oak riparian forest and the bank of Cache Creek from construction activities. No construction activities shall be allowed in these areas.

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less-than-Significant Impact. The project site does not support federally protected wetlands as defined by Section 404 of the CWA. However, Cache Creek, which does qualify for protection as waters of the United States under Section 404 of the CWA, is located immediately adjacent to the project site. Any fill of waters of the United States is subject to U.S. Army Corps of Engineers (USACE) jurisdiction under Section 404 of the CWA. Considering the proximity of proposed project construction activities to Cache Creek, there is the potential for construction-related impacts on Cache Creek. This would be considered a potentially significant impact. Implementation of Mitigation Measure Bio-3 would reduce these impacts to a less-than-significant level.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less-than-Significant Impact. A wildlife corridor is generally a topographical or landscape feature, or movement area, that connects two open space habitat parcels that would otherwise be entirely fragmented or isolated from one another. Although a variety of wildlife species may use the project site, it does not function as a known or major migratory corridor. Project construction and operation would not substantially interfere with the movement of any native resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites. Therefore, there would be a less-than-significant effect on wildlife migration or nursery sites.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less-than-Significant Impact. Federal projects are not subject to local tree ordinances. Furthermore, Yolo County does not currently have a tree ordinance or other regulations that protect trees within the County. In November 2005, the county adopted the Greenprint Initiative, which is a regional initiative that supports the planting of trees on public lands to improve and sustain the quality of life in the region. It is likely that tree policies will be developed during the Yolo County General Plan Update process that is currently underway. The county is currently applying for a grant from the DFG Wildlife Conservation Board to develop an oak woodland management plan. Because no policies to protect oaks are in place, there would be no conflict with local policies. However, to protect the three valley oaks that are present on and near the project site, brightly colored protective fencing will be erected around the driplines of the oaks during project implementation. Because no policies to protect oaks are in place, and an exclusion measure is being taken to protect oaks, this impact would be less than significant.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The project site is within the boundaries of the proposed Yolo County Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP) that is currently under development. The purpose of the HCP/NCCP will be to promote biological conservation in conjunction with economic and urban development in the plan area. The HCP/NCCP will describe the measures that local agencies will perform to conserve biological resources, obtain permits for urban growth and public infrastructure projects, and continue to maintain the rich agricultural heritage and productivity of the county. Implementation of the project would not conflict with the provisions or otherwise affect implementation of the HCP/NCCP. As the HCP/NCCP has not yet been adopted, there is no impact related to the proposed HCP/NCCP.

CULTURAL RESOURCES

	THRESHOLDS OF SIGNIFICANCE	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
V.	**Cultural Resources. Would the project:**				
	a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☒	☐
	b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
	c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
	d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

ENVIRONMENTAL SETTING

HISTORY OF CACHE CREEK AND THE CENTRAL VALLEY

The Cache Creek area and the Central Valley region of California in general, was one of the most densely populated areas in North America during prehistoric times. Summaries and overviews of the prehistory of the vicinity can be found in California Archaeology (Moratto 1984:167–216) and Summary of the Prehistory of the Lower Sacramento Valley and Adjacent Mountains (Johnson 1978). A more detailed discussion of the broad cultural patterns proposed for Central California can be found in A Proposed Integrative Taxonomy for Central California Archaeology (Bennyhoff and Fredrickson 1969).

The general project area is within the ethnographic territory of the Patwin, a series of linguistically and culturally related groups who occupied a portion of the lower Sacramento Valley west of the Sacramento River and north of Suisun Bay. Major sources of information on these groups include the works of Bennyhoff (1977), Johnson (1978), Kroeber (1925), McKern (1922, 1923), Powers (1877), and Work (1945). Although these groups had no common name, they spoke dialects of a single historically related language.

In general, Patwin lifeways remained stable for centuries until the large-scale incursions of European populations during the early decades of the 19th century. Trappers from the Hudson's Bay Company, Russian traders, and Spanish missionaries were the first non-Native peoples to venture into Patwin territory but probably had little impact on their culture. Several epidemics broke out in the Central Valley during the early decades of the 19th century that severely reduced population levels among many Native American groups and put great stress on their cultural systems. However, it was not until the Gold Rush period starting in 1848–1849 that intensive pressure from miners, farmers, ranchers, and other entrepreneurs and settlers significantly and permanently disrupted Patwin lifeways.

Euro-American settlement in the vicinity of the project site began in earnest with the granting of the 26,637-acre *Rancho Rio Jesus Maria* to John M. Harbin (and others) in 1846. By 1849, the town of Cochran's Crossing (named for the founder, Thomas Cochran) was established and by 1857, it was already known as Cacheville (now called Yolo) and was shown as such on an 1857 U.S. General Land Office plat map of the area. Due at least in